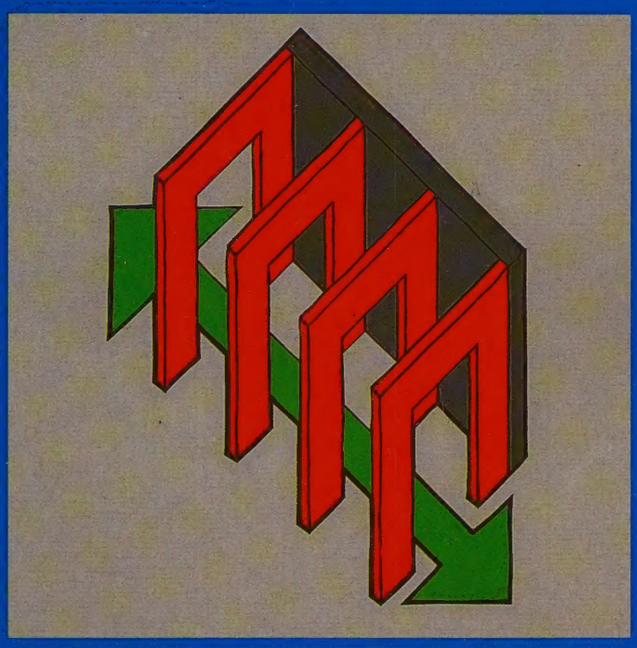
MCO 281

Firecode

Health Technical
Memorandum 81
Supplement 1

Fire precautions in new hospitals



NHS Estates
An Executive Agency of the Department of Health

FIRECODE

Health Technical
Memorandum 81
Supplement 1

Fire precautions in new hospitals

London: HMSO

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An Executive Agency of the Department of Health

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About this publication

This document contains revisions and amendments to Health Technical Memorandum (HTM) 81 – 'Fire precautions in new hospitals', which was first published in 1987. These primarily are a result of the following legislation:

a. The National Health and Community Care Act 1990;

b. The Fire Precautions Act 1971 (as amended by the Fire Safety and Safety at Places of Sports Act 1987);

c. The Building Regulations 1991.

References to Codes and Standards have also been up-dated or deleted if these have changed since the last publication date.

Department of the Environment

The recommendations in HTM 81 and the amendments in this document have been accepted by the Department of the Environment as providing the practical guidance required to satisfy Part B1 of the Building Regulations for means of escape in hospital buildings.

This document also contains certain recommendations which differ from the guidance in the Approved Document to Part B of the Building Regulations 1991 (hereafter referred to as Approved Document B), for example the provision of cavity barriers (paragraph 4.13) and access and facilities for the fire service (Chapter 19).

The Department of the Environment has accepted that these are to be applied to hospital buildings.

Home Office

The Home Office has issued all Chief Officers with this document and has recommended that it be used, in conjunction with HTM 81, when advice is sought from fire authorities.

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Home Office

The Home Office has issued all Chief Officers with this document and has given recommendation that it be used in conjunction with HTM 81 when advice is sought from the fire authority.

Contents

About this publication

General revisions *page 2*

1. Introduction *page 3*

2. Scope *page 4*

3. Fire Precautions Act 1971 (as amended by the Fire Safety and Safety at Places of Sports Act 1987) *page 5*

4. The Building Regulations 1991 *page 7*

5. Consultation *page 10*

8. Compartments *page 11*

9. Sub-compartments *page 12*

11. Additional structural/constructional aspects *page 13*

12. Car parking *page 15*

15. Mechanical and electrical services accommodation and electrical distribution *page 16*

16. Hospital street *page 17*

17. Means of escape *page 18*

18. Escape stairways, lifts, bedlifts and protected lobbies *page 19*

19. Access and facilities for the fire service *page 20*

20. Fire resisting doorsets *page 22*

21. Active fire precautions *page 23*

22. Mechanical and electrical services *page 24*

Appendix 2 *page 25*

Appendix 5 *page 28*

Other publications in this series *page 29*

About NHS Estates *page 30*

General revisions

General

References to "DHSS" should be replaced by "Department of Health".

Approved Documents

References to "Approved Document B2/3/4" should be replaced by "Approved Document B".

References to "Approved Document K1/2/3" should be replaced by "Approved Document K".

British Standards

BS476: Part 8: 1972, 'Test methods for the fire resistance of elements of building construction'

This has been superseded by BS476: Parts 20–24: 1987. BS476: Part 8: 1972 is, however, still valid in respect of items tested or assessed prior to 1 January 1988. The full titles of Parts 20–24 are:

a. BS476: Part 20: 1987 – 'Method for determination of the fire resistance of elements of construction (general principles)';

b. BS476: Part 21: 1987 – 'Methods for determination of the fire resistance of loadbearing elements of construction';

c. BS476: Part 22: 1987 – 'Methods for determination of the fire resistance of non-loadbearing elements of construction';

d. BS476: Part 23: 1987 – 'Methods for determination of the contribution of components to the fire resistance of a structure';

e. BS476: Part 24: 1987 – 'Method for determination of the fire resistance of ventilation ducts'.

1.0 Introduction

Page 3
Paragraph 1.6
Delete and insert "see Supp 1"

1.6 This HTM should be read in conjunction with the recommendations contained in:

a. Policy and Principles;

b. HTM 82 – 'Alarm and detection systems';

c. HTM 83 – 'General fire precautions' (under revision);

d. HTM 87 – 'Textiles and furniture' (under revision);

e. FPN 1 – 'Laundries';

f. FPN 2 – 'Storage of flammable liquids';

g. FPN 3 – 'Escape bed lifts';

h. FPN 4 – 'Main kitchens' (in preparation);

j. FPN 5 – 'Commercial enterprises on hospital premises'.

2.0 Scope

The following amendments should be noted:

c. major alterations to existing hospitals. It is not possible to accurately define "major alterations". Capital cost and/or area are not necessarily reliable guides. It is left to the discretion of the Health Authority/NHS trust, in association with the building control authority, to determine which guidance is appropriate in a given situation, that is, the recommendations of this HTM or the 'Home Office Draft Guide to Fire Precautions in Hospitals' (under revision, to be re-issued as HTM 85 – 'Fire precautions in existing hospitals');

Page 4
Paragraph 2.1(c)
Delete and insert "see Supp 1"

f. those parts of an existing hospital which are used for means of escape purposes from a new hospital extension.

Add after paragraph 2.1(e)

2.7 Where it is proposed to alter or modify an existing Nucleus hospital, the alterations must comply with the guidance in Nucleus Fire Precautions Recommendations.

Paragraph 2.7
Delete and insert "see Supp 1"

Page 5
Chapter 3
Delete complete chapter and insert "see Supp 1"

3.0 Fire Precautions Act 1971 (as amended by the Fire Safety and Safety at Places of Sports Act 1987)

General

3.1 This chapter describes the following:

a. the circumstances in which fire certificates are required;

b. the legal duties with regard to safety pending the determination of applications for fire certificates;

c. the legal duties as regards safety in certain shops, offices and factories which do **not** require fire certificates.

3.2 A fire certificate, issued by the local fire authority, is required for those parts of hospitals which are used as shops, offices or factories where:

a. more than 20 persons are at work at any one time;

b. more than 10 persons are at work at any one time, elsewhere than on the ground floor of the premises.

If there are two or more shops, offices or factory premises in the building and the aggregate number of people who work there exceeds 20, or 10 elsewhere than on the ground floor, a fire certificate is again required.

3.3 Irrespective of the number of people employed, a fire certificate may be required for factory premises where explosive or highly flammable materials are stored, or used in or under, the premises.

Interpretation with regard to offices within hospitals

3.4 In new hospitals the means of escape from the main office suite should be designed to BS5588: Part 3, provided that those offices will never be used for patient escape purposes. Means of escape from offices which are related to nursing areas or are in areas which will be used for patient escape purposes should be designed to guidance contained within this HTM.

Statutory duties

3.5 While the application for a fire certificate is pending, the occupier is under a statutory duty to ensure:

a. that the means of escape in case of fire at the premises can be safely and effectively used at all times when there are people in the premises;

b. that the means for fighting fire with which the premises are provided are maintained in efficient working order;

c. that any persons employed to work in the premises receive instruction or training in what to do in case of fire.

3.6 In certain instances the local fire authority may decide that, under the provisions in the Fire Precautions Act, some shops, offices or factories are

exempt from the requirement to have a fire certificate. However, there remains a general duty on the occupier under that Act to provide such premises with:

a. such means of escape in case of fire;

b. such means of fighting fire

as may reasonably be required in the circumstances.

3.7 The following Home Office publications:

Guide to fire precautions in existing places of work that require a fire certificate;

Code of practice for fire precautions in factories, offices, shops and railway premises not required to have a fire certificate,

give detailed guidance on the requirements for fire certificates.

3.8 The Health and Safety Executive must be consulted in all cases where there is any doubt as to whether or not the premises, or part of the premises, are factories, offices or shops. For all such premises or parts of premises, there is a statutory duty for the occupier/employer to notify the Health and Safety Executive (see paragraph 11.43 of HTM 81).

3.9 The general manager/chief executive has the overall responsibility for *fire precautions* on hospital premises.

Fire Precautions (Places of Work) Regulations 1992

3.10 At the time of writing (January 1993) it is expected that these regulations will come into force in late 1993. One effect of these regulations is that all patient care areas will be regarded as workplaces. The enforcing authority will be the local fire authority.

Page 6
Chapter 4
Delete complete chapter and insert "see Supp 1"

4.0 The Building Regulations 1991

4.1 The National Health Service and Community Care Act 1990 removed Crown immunity from health authorities and other specified Health Service bodies from 1 April 1991. This means that for building work (as defined in the Building Regulations) the requirements of the Building Regulations 1991 (SI 1991 2768) must be observed. Approval must be obtained from the building control authority, or approved inspector. Procedural guidance is available in the document 'Building Regulation and fire safety procedural guidance' issued jointly by the Department of the Environment, the Home Office and the Welsh Office.

4.2 The recommendations of this HTM generally rely on compliance with:

a. the Building Regulations 1991;

b. the practical guidance in 'Approved Document B - Fire safety', relevant to purpose group 2(a) Residential (Institutional).

4.3 By following the guidance in this document it is possible to satisfy the means of escape requirements of part B1 of the Building Regulations 1991. The guidance in this document is more detailed in respect of fire safety in hospitals than Approved Document B. It also introduces a number of variations to the general guidance in Approved Document B, as part of the overall fire safety package required to suit the particular characteristics of hospitals. The Approved Document and this HTM sit side by side, the latter amplifying, and in places modifying, the guidance of the former.

4.4 The practical guidance in Approved Document B, Part B1 acknowledges Firecode. Paragraph 0.34 states: "The provision of means of escape in new hospitals should therefore follow the guidance in the appropriate section of Firecode (either Nucleus Fire Precautions Recommendations or HTM 81)."
A hospital designed to this HTM satisfies the requirements of Part B1 "Means of escape" of Approved Document B.

Additional statutory provisions

4.5 A number of Local Acts exist and some of these contain special requirements in respect of fire precautions. Some requirements may be in excess of the recommendations contained in this HTM. Health Authorities are therefore recommended to reach agreement with the building control authority in all such cases; this can be done at the same time as the normal consultations recommended in Chapter 5 of HTM 81.

4.6 Attention is also drawn to the fact that there may be other legislation and guidance imposing or recommending requirements for fire precautions.

Purpose groups

4.7 The designation of purpose groups for various types of building and compartment is contained in Table D1 of Approved Document B.

4.8 In the majority of cases the purpose group of a building can be determined easily but although hospitals generally fall into Purpose Group 2(a), there are many areas or departments the purpose group of which cannot be determined by Approved Document B. This is particularly so for those areas which provide sleeping accommodation. Therefore all departments or areas, including any department or area providing ancillary services, planned as an integral part of a hospital should be designated as Purpose Group 2(a).

4.9 An exception arises where a department or area, if built as a separate building, would be subject to more stringent structural fire precautions than those applicable to Purpose Group 2(a). Where such departments or areas are built as an integral part of a hospital their construction should comply with the additional Approved Document B structural fire precautions relevant to that purpose group.

4.10 Any new health building which:

a. is detached from the main hospital, or is joined to the hospital by a linking corridor which complies with paragraph 4.11 below; and

b. does not contain patient sleeping accommodation or departments to which patients have access; and

c. whose separation from adjacent buildings is in accordance with the guidance in Approved Document B;

will have its purpose group determined by its intended use.

4.11 Any linking corridor mentioned in paragraph 4.10 above must:

a. contain no patient accommodation either within it or off it (except the accommodation it serves at each end);

b. be compartmented at each end by fire resisting construction;

c. have re-entrant angles between the linking corridors and each building designed in accordance with the recommendations in paragraphs 11.12 and 11.17–20 inclusive of HTM 81;

d. if single storey, provide direct access to a final exit at ground level or, if multi-storey, to an escape stairway;

e. not be used for progressive horizontal evacuation of patients.

Separation of buildings

4.12 The guidance in Approved Document B concerning the separation between buildings should also be applied to certain courtyards, lightwells and elevations of the same building (see paragraph 11.21 of HTM 81).

Protected escape routes

4.13 The philosophy of this HTM in respect of means of escape does not provide for protected escape routes as defined in Approved Document B. Approved Document B cites this HTM as the document to be followed to satisfy Part B1 in respect of means of escape for hospitals. It should therefore be emphasised that the requirements of paragraphs 5.7 and 5.8 of section 5 of Part B1 are **not** to be applied to hospitals. Additionally the requirements of Part B3 Table 13 "Provision of cavity barriers" items 5 and 6 are not applicable to hospitals.

Fire brigade access

4.14 Section 17 of Approved Document B gives details of access to the building for fire-fighting personnel. If the philosophy of this section is followed for hospitals provided with a hospital street, it results in an excessive number of stairways being provided. Therefore Section 17 of Approved Document B should be used in hospitals provided with hospital streets, only to determine when fire fighting shafts are required but not to determine the number and location. Guidance is given in Chapters 16 and 19 of HTM 81. Hospitals and hospital extensions **without** a hospital street should be designed to the guidelines in Section 17 of Approved Document B.

Completion certificates

4.15 Building control authorities are required to issue completion certificates in the following circumstances:

a. where full plans are submitted together with a statement that the building is to be put to a designated use under the Fire Precautions Act 1971; in which case the certificate is to be in relation to compliance with Part B (Fire Safety);

b. where full plans are submitted together with a request for a completion certificate, in which case the certificate is to be in relation to any applicable requirements of Schedule 1 of the Building Regulations.

5.0 Consultation

The following amendments should be noted:

Building control authority consultation

Page 8
Subtitle
Delete and insert "see Supp 1"

5.2 The lead authority for new building work is the building control authority. They should be consulted and all guidance on building regulations and other matters including the local fire authorities' requirements should be channelled through them. It is essential that building control authorities are consulted from inception to completion of a project.

Paragraphs 5.2–5.4
Delete and insert "see Supp 1"

5.3 Any subsequent alteration to the agreed design, structural fire precautions, engineering services and means of escape provision, whether during design or construction stages, should maintain the recommendations of this HTM and should be agreed with the building control authority.

5.4 The architect will need to make an early approach to the building control authority to agree access and facilities for the fire brigade required by the Building Regulations. For fire matters outside the scope of the Building Regulations the architect will need to make an early approach to the fire authority.

8.0 Compartments

The following amendments should be noted:

Page 14
Paragraph 8.13(b)
Insert after 8.13(b)(iv)

v. an exit to an enclosed escape route across a flat roof or an enclosed bridge on the same level, giving direct access to an escape stairway designed to meet the recommendations of paragraph 17.59 of HTM 81.

Page 15
Paragraphs 8.26 to 8.29
Delete and insert "see Supp 1"

Small detached hospital premises

8.26 Small detached hospital premises are premises which satisfy the following requirements:

a. they are detached at all levels from the main hospital apart from linking corridors at ground level only;

b. the net floor area of each storey is less than 1000 square metres;

c. no patient accommodation is above second floor level;

d. storeys containing wards, or patient accommodation, should contain a maximum of 30 patients.

When calculating the area of any storey, the area must include the total accommodation, that is, patient, staff, visitor areas, circulation spaces and communication routes. For example, the storey area of separate pavilion type buildings connected only by communication routes must be calculated to include each pavilion and the communication routes.

8.27 To meet the requirements of progressive horizontal evacuation in these premises, each storey which contains patient accommodation, or which is sited below a storey containing patient accommodation, should be divided into a minimum of two compartments. No compartment containing a ward should contain more than 20 patients. At least two fire escape exits should be provided from each compartment as follows:

a. one exit must be to an adjoining compartment on the same level;

b. one exit should be to an escape stairway, or to a final exit on the same level, or to an escape across a flat roof on the same level which meets the requirements of paragraph 17.56 of HTM 81.

The travel distance from any point within a compartment to an escape stairway should not exceed 64 metres.

Sub-compartments

8.28 The division of a compartment into sub-compartments is **not** required in the following circumstances:

a. where a compartment contains only **one** ward;

b. where a compartment contains only **one** non-ward department.

8.29 The adoption of the recommendations in paragraphs 8.26–28 does not negate any other recommendations contained in HTM 81.

9.0 Sub-compartments

The following amendments should be noted:

Page 14
Paragraph 9.5(d)
Delete and insert "see Supp 1"

d. the other exit should be to an adjoining sub-compartment, or any of:
   (i) an adjoining compartment;
   (ii) a hospital street;
   (iii) a final exit;
   (iv) an exit to an escape route across a flat roof to comply with paragraph 17.56 of HTM 81;
   (v) an exit to an enclosed escape route across a flat roof or an enclosed bridge designed to the requirements of paragraph 17.60 of HTM 81, which gives direct access to: a hospital street, or a final exit, or an adjoining compartment/sub-compartment. The doors between an enclosed escape route and a hospital street must have the same fire resistance as that required for the elements of the structure. Travel distances must be measured to the entrance to the hospital street or final exit and not to the exit from the compartment/sub-compartment.

11.0 Additional structural/ constructional aspects

The following amendments should be noted:

Page 19
Paragraph 11.7
Delete and insert "see Supp 1"

11.7 The Department of Health does not recommend accommodating patients on storeys where the travel distance down a stairway exceeds 45 metres to the final exit level. Where such a solution is unavoidable the architect must consider, in association with the building control authority, whether additional fire precautions are required. Additional measures may also be required where a new hospital extension is built against, or linked to, an existing hospital which has patient accommodation, or departments to which patients have access on storeys above 45 metres measured in accordance with paragraph 11.8 of HTM 81. See also paragraph 11.10 of HTM 81 for additional protection measures.

Page 22
Paragraph 11.26
Delete and insert "see Supp 1"

11.26 With the exception of the rooms noted in paragraph 11.11 of HTM 81, the guidance in Approved Document B must be followed.

Paragraph 11.27
Delete paragraph

Paragraph 11.31
Delete and insert "see Supp 1"

11.31 If the suspended ceiling contributes to the fire resistance of the structural floor or its supporting members, the design must follow the guidance given in Approved Document B; in addition, it must be non-demountable and contain no access panels. It is essential that the ceiling does not collapse due to distortion of the supporting members, or that the joints do not form weak links in the protecting membrane. Lack of provision to allow for thermal expansion of the suspension grid can lead to failure. The compartment or sub-compartment walls must be carried through to the underside of the structural floor above and fire-stopped. Cavity barriers must be provided in accordance with Approved Document B.

Page 23
Paragraph 11.36
Delete and insert "see Supp 1"

11.36 With the exceptions noted in paragraph 4.13 above, barriers must be provided in cavities in accordance with the guidance in Approved Document B. Where cavity barriers are provided in ceiling voids they must be located, where possible, above and in line with room locations.

Paragraph 11.41
Delete and insert "see Supp 1"

11.41 HTM 87 – 'Textiles and furniture' (under revision) gives detailed guidance on this subject. Purpose-designed built-in furniture should also meet the recommendations of HTM 87.

Atria

Page 24
Paragraph 11.44
Delete and insert "see Supp 1"

11.44 The incorporation of an atrium or atria in a new multi-storey hospital does not satisfy the guidance in Approved Document B. However, atria may be acceptable in certain situations, provided that staff and patients are not put to any greater risk from the effects of fire, smoke and toxic gases than would be the case if such atria were not incorporated. The additional fire safety measures which will be required must be agreed with the building control authority.

11.45 BS5588: Part 7 – 'Code of practice for atrium buildings' is in preparation. It is very general in its approach and may not be relevant to hospitals. Additional or different fire precautions to those in the BS may therefore be required. The Department of Health is considering the need for a special Fire Practice Note on atria.

Projecting eaves

11.46 In hospitals with projecting eaves there is the potential, if adequate precautions are not provided, for a fire to break through a window immediately below the eaves and bypass any fire resisting construction inside the building. This would allow fire and/or smoke to be transferred to an adjacent compartment/sub-compartment. To prevent this the following measures must be taken:

a. cavity barriers must be provided in the void created by the eaves construction in accordance with Approved Document B, and at every junction with a compartment wall;

b. the eaves soffit must be non-combustible and have a class "O" surface spread of flame;

c. where a fire resisting ceiling is provided in accordance with the recommendations in paragraph 9.9 of HTM 81, the eaves soffits and fascias must provide half an hour fire resistance between the inside and outside of the eaves construction.

Special attention is also required to the positioning of roof ventilation, to avoid possibility of fire entering the roof via soffit ventilators.

Page 25
Paragraph 12
Delete complete chapter and insert "see Supp 1"

12.0 Car parking

12.1 All car parks must be designed in accordance with Approved Document B.

12.2 The following additional fire precautions are required:

a. ground level car parks must not be provided directly under patient accommodation;

b. all ground level under-building car parks must be provided with a sprinkler system and be separated from internal accommodation by at least one-hour fire resisting construction;

c. access from a ground level under-building car park into the hospital must be protected by at least one-hour fire resisting doors, which have automatic self-closing devices. Hold-open devices must not be used;

d. underground car parks must be provided with a sprinkler system and low-level mechanical extract ventilation;

e. no open part of a ramp to an underground car park must be closer than 3 metres to the external face of the hospital. Where the ramp passes under the hospital a roof or slab of at least 1½ hours fire resisting construction must be provided over the ramp for a distance of 3 metres from the face of the building;

f. smoke extracts from underground car parks must not discharge within 3 metres of the external face of the building if there is patient accommodation on the ground or upper floors immediately above or within 6 metres either side of the smoke extract.

12.3 The design of open-air car parks should not permit cars to be parked closer than 3 metres from the external face of the hospital.

15.0 Mechanical and electrical services accommodation and electrical distribution

The following amendments should be noted:

Page 29
Paragraph 15.3
Delete and insert "see Supp 1"

15.3 Plant rooms presenting an above average risk of fire should be separated from other accommodation by fire resisting construction of at least the same fire resisting standard as the rest of the building. This must never be less than one hour for plant rooms at ground level and above, and never less than 1½ hours for plant rooms at basement levels. These periods should be increased where required by Approved Document B. Examples of such plant rooms are:

a. boiler rooms (the enclosing structure for oil fired installations should be in accordance with BS5410: 1978 or the above, whichever is the greater);

b. generator rooms;

c. incinerator rooms;

d. lift machine rooms;

e. battery rooms;

f. rooms housing electrical equipment containing in excess of 25 litres of flammable dielectric;

g. air-conditioning plant rooms.

Paragraph 15.7
Delete and insert "see Supp 1"

15.7 All electrical installations should comply with HTM 2007 – 'Electrical services: supply and distribution', HTM 2011 – 'Emergency electrical services' and the current edition of the IEE wiring regulations, to provide safety from fire, shock and burns.

Page 31
Title
Amend to read "Hospital street"

16.0 Hospital street

The following amendments should be noted:

Paragraph 16.8
Delete and insert "see Supp 1"

16.8 The street must be sub-divided across its entire width to provide half-hour fire resistance, or half the fire resisting standard of the compartments, whichever is the greater. Entrances/exits between compartments/departments and the hospital street must be separated from the entrance to a stairway enclosure and a lift enclosure. A minimum of three street sub-divisions must be provided. Entrances into stairway and lift enclosures may be contained within the same sub-division. However, where it is required that only two stairways serve the hospital street, each stairway must be in a separate sub-division. The distance between hospital street sub-division walls must not exceed 32 metres. Compartment/department entrances/exits in any one sub-division of the hospital street should be kept to the minimum.

Page 32
Paragraph 16.12
Delete and insert "see Supp 1"

16.12 Every ground floor hospital street must have final exits located no more than 192 metres apart, so that the travel distance within the hospital street to the nearest final exit does not exceed:

a. 96 metres from a compartment/department exit;

b. 18 metres from the exit of a stairway enclosure;

c. 18 metres from the exit from a fire-fighting lift.

Final exits must be within 18 metres of a suitable vehicular access for fire-fighting appliances.

17.0 Means of escape

The following amendments should be noted:

Page 34
Paragraph 17.17(b)
Delete

Page 35
Paragraphs 17.19 to 17.23
Delete

18.0 Escape stairways, lifts, bedlifts and protected lobbies

The following amendments should be noted:

Page 42
Paragraph 18.19
Delete

Page 44
Paragraph 18.42
Delete and insert "see Supp 1"

Remoteness in the case of an escape bed lift is not necessarily governed by distance. It may be achieved by fire resisting construction separation, but only if the escape route approaches to each lift are adequately separated to minimise the risk of both lifts being rendered unusable due to the effects of fire and smoke.

18.42 Escape bed lifts (see Fire Practice Note (FPN) 3), if provided, must be remote from each other so that in the event of fire at least one escape bed lift is available for evacuation purposes. Exits from the escape bed lift at ground level must not share the same protected escape route, or hospital street sub-division.

Page 44
After paragraph 18.48
insert "see Supp 1"

18.49 Where an escape bed lift discharges at ground level into a protected escape route, consideration should be given to providing access, via a protected lobby and circulation space, to a suitable compartment/sub-compartment where patients on life support systems etc can be evacuated, instead of being discharged directly to the outside.

19.0 Access and facilities for the fire service

Page 46
Chapter 19
Delete complete chapter and insert "see Supp 1"

General

19.1 The guidance in Approved Document B section B5, 'Access and facilities for the fire service' must be followed, except where it is at variance with the recommendations of this chapter.

19.2 All hospitals **not** provided with a hospital street, irrespective of size, must be provided with a minimum of two escape stairways which are at least 1600 mm wide. The stairways must be located so that the final exit from the stairway, or the protected escape route leading from the stairway, is no more than 18 metres from a suitable vehicular access for fire brigade appliances. The protected escape route leading from the stairway must be no more than 18 metres in length.

19.3 A minimum of two site access points must be provided for fire brigade appliances. Their location is to be agreed with the local fire authority.

Hospitals and hospital extensions provided with hospital streets

19.4 In hospitals provided with hospital streets the guidance in Approved Document B is appropriate for determining when fire-fighting shafts are required, but not their number and location. In this type of hospital, the hospital street, designed as a compartment, and provided with suitably located wet or dry rising mains (see paragraphs 19.8, 19.10 and 19.11 below), provides the fire-fighting platform, and consequently no fire-fighting lobby is required to fire-fighting stairways.

Fire-fighting stairways and fire-fighting lifts

19.5 Where required, fire-fighting stairways and fire-fighting lifts must be designed and constructed to the standards of BS5588: Part 5, with the following exceptions:

a. the minimum width of the stairway should be 1600 mm;

b. the provision of a fire-fighting lobby is not required (see paragraph 19.4 above).

19.6 Fire-fighting stairways and fire-fighting lifts must be located so that:

a. either the exit from the stairway, or lift, to the hospital street is no more than 18 metres from a final exit from the hospital street, which in turn is within 18 metres of a suitable vehicular access for fire-fighting appliances;

b. or the final exit from the stairway, or lift, or the protected escape route leading from the stairway, is no more than 18 metres from a suitable vehicular access for fire-fighting appliances. The protected escape route leading from the stairway should be no more than 18 metres in length.

19.7 Fire-fighting lifts should be located immediately adjacent to the fire-fighting stairway, with access directly off the hospital street.

Fire mains

19.8 Fire mains are not always required by Approved Document B. However, it may be advantageous to install them because this option will generally reduce the vehicular access requirements of Approved Document B. If this option is chosen the guidance in paragraphs 19.9–11 below should be followed as appropriate.

19.9 Wet or dry risers are to be designed and installed in accordance with BS5306: Part 1. All dry risers are to be permanently charged.

Hospital extensions not provided with hospital streets

19.10 Wet or dry risers must be provided in accordance with Approved Document B; however, the 60 metre laid hose distance may be extended to 64 metres.

Hospitals and hospital extensions provided with hospital streets

19.11 Wet and dry risers must be provided in accordance with Approved Document B. However, the fire main outlets must be located within the hospital street, so that every part of every storey, other than at fire service access level, is no more than 64 metres from a fire main outlet connection, measured along a route which is suitable for laying hose.

19.12 The positions of wet or dry risers must always be arranged so that a fire hose laid through a doorway will not allow smoke from the fire to affect the hospital street in such a way as to jeopardise escape from other parts of the hospital.

19.13 Fire main inlets must be located:

a. at every entrance to the hospital street which is within 18 metres of a suitable access for fire-fighting appliances;

b. at the final exit from a fire-fighting stairway, or the protected escape route leading from a fire-fighting stairway.

20.0 Fire resisting doorsets

The following amendments should be noted:

20.1 Compartments and sub-compartments are designed to retard the spread of, or contain, fire and smoke. The integrity of the compartments and sub-compartments is of paramount importance to the safety of hospital occupants. Therefore any door openings in these walls must be fitted with doors providing the standard of resistance to fire and smoke penetration required by Approved Document B.

Page 47
Paragraph 20.1
Delete and insert "see Supp 1"

Paragraph 20.6
Delete

20.7 All fire resisting doorsets including any glazing must be of a design and construction which when tested in accordance with the relevant parts of BS476, achieves the required standard of fire and smoke resistance.

Paragraphs 20.7 and 20.8
Delete and insert "see Supp 1"

20.8 All fire resisting doorsets, including each leaf of double doors, should be provided with an identification disc. The disc should be 45 mm diameter denoting the fire and, where applicable, smoke resisting standard of the doorset. The disc should be positioned on each face of each leaf at the top of the hanging-stile.

20.22 Access panels should be of the same standard of fire resistance as the rest of the construction of which they form part.

Page 48
Paragraph 20.22
Delete and insert "see Supp 1"

21.0 Active fire precautions

The following amendments should be noted:

Page 50
Table to paragraph 21.9
Delete and insert "see Supp 1"

Halon portable extinguishers are becoming unavailable from manufacturers. Under the terms of the Montreal Protocol their ozone depleting potential is such that they should not be purchased for use in new hospitals. Existing halon extinguishers need not be removed before their necessary replacement date, but they must only be discharged in a fire emergency.

Extinguisher type	Class of fire		Electrical risk
	A	B	
Water			
gas cartridge	✓		
stored pressure	✓		
Powder			
gas cartridge		✓	✓
stored pressure		✓	✓
Foam			
gas cartridge		✓	
stored pressure		✓	
Carbon dioxide			
stored pressure		✓	✓

Paragraph 21.19
Delete and insert "see Supp 1"

Total and partial flooding systems

21.19 Gas flooding systems may be used to protect HV switchgear installations, computer suites, control rooms and similar areas where there are important items of electrical equipment, and to protect archive and record storage rooms. In recent years it has become standard practice to use Halon 1301 total or partial flooding systems as fire protection in these areas. The other type of gas flooding system available is carbon dioxide. The 1992 Copenhagen meeting of the Montreal Protocol agreed to phase out the production of halons, except for essential uses, by the year 1994. Although no definition of what constitutes an essential use is given in the Montreal Protocol, it is considered that within NHS premises the number of essential uses will be small and limited to specialised equipment.

Paragraph 21.20
Delete and insert "see Supp 1"

21.20 When deciding on the active fire precautions required in premises, all alternative extinguishing agents and/or fire protection strategies should be fully evaluated before any decision is made. The general assumption should be that halons cannot be used for fire protection purposes.

Paragraph 21.21
Delete and insert "see Supp 1"

21.21 Where it is thought that an essential use may exist, the following four criteria should be satisfied:

a. the fire hazard and the nature of the risk must be such as to justify fire protection;

b. there must be no acceptable alternative fire protection strategies;

c. the use of an alternative fire extinguishing medium must pose an immediate threat to the lives of the occupants of the protected facility;

d. the loss of the facility must pose an immediate threat to life, and/or severely impair the running of the hospital.

22.0 Mechanical and electrical services

The following amendments should be noted:

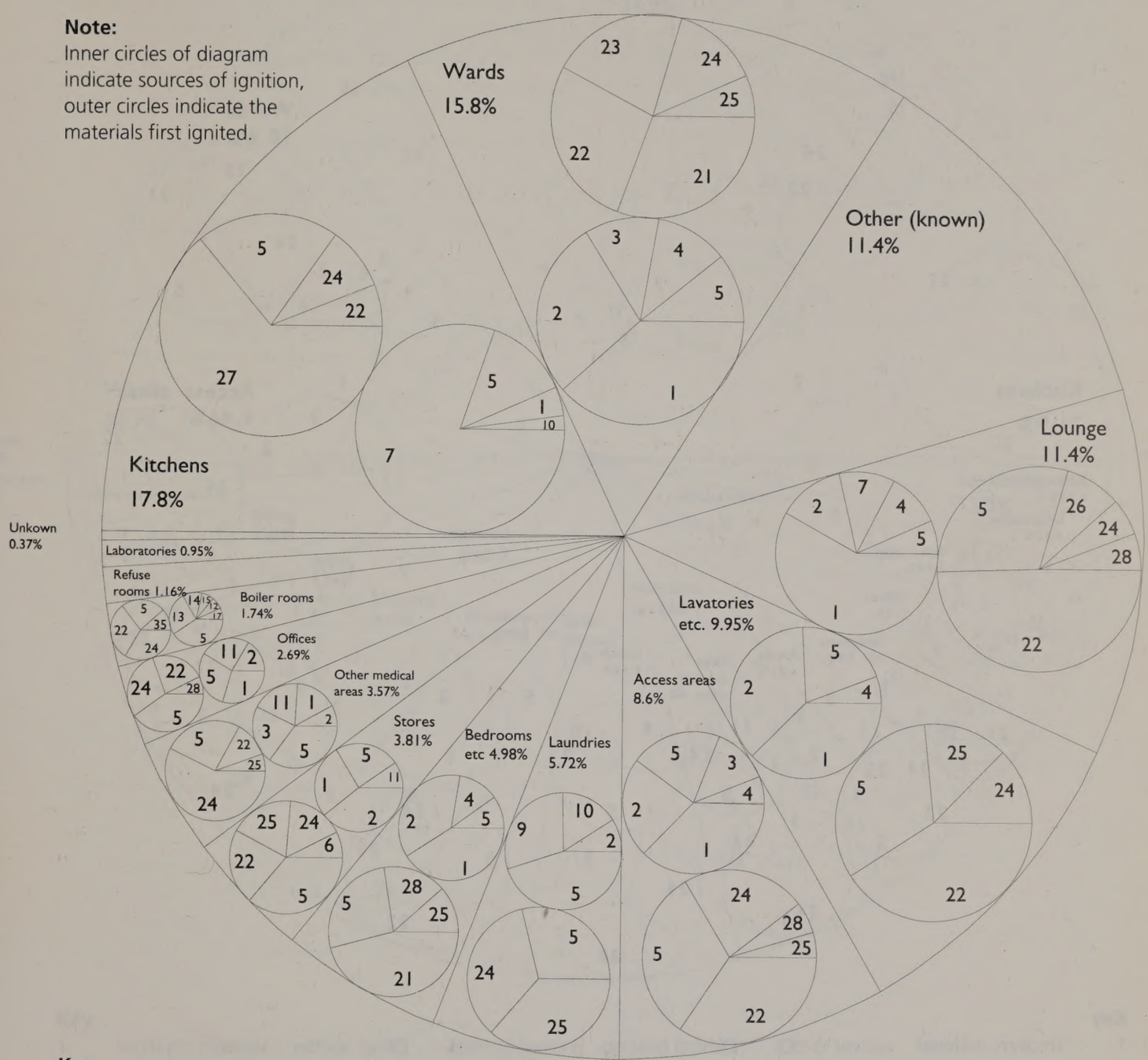
22.18 Automatic fire shutters in ductwork passing through cavity barriers should be provided in accordance with Approved Document B.

Page 53
Paragraph 22.18
Delete and insert "see Supp 1"

Appendix 2 – Fires in hospitals

All hospitals

Note:
Inner circles of diagram indicate sources of ignition, outer circles indicate the materials first ignited.



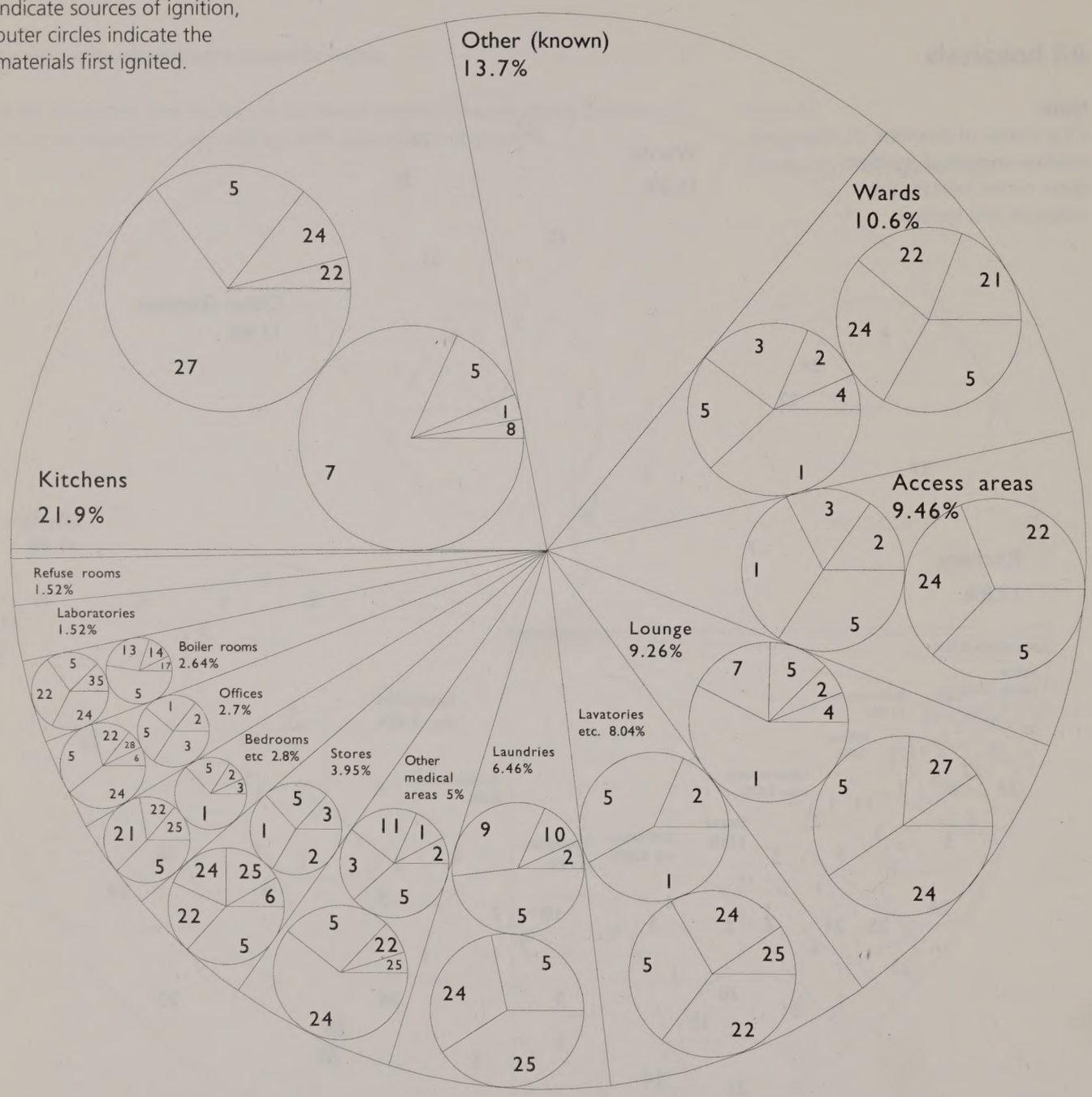
Key

1	Smokers material	13	Central heating	25	Other textiles
2	Deliberate fires	14	Water heating	26	Decorations, toys
3	Lighting	15	Welding, cutting etc.	27	Food
4	Matches	16	Supply apparatus	28	Waste (unspecified)
5	Other (known)	17	Wire and cable (fixed)	29	Clothing on person
6	Unknown	18	Wire and cable (leads to)	30	Structure
7	Cooking appliances	19	Other naked lights	31	Lagging
8	Dishwashers	20	Cleaning materials	32	Fittings
9	Tumble dryers	21	Bedding (on beds)	33	Other furnishings
10	Washing machines	22	Waste (specified)	34	Upholstery
11	Specialised equipment	23	Vegetation	35	Raw materials
12	Space heating	24	Electrical insulation		

Home Office fire statistics 1989 – total fires 2412

Non-psychiatric hospitals

Note:
Inner circles of diagram indicate sources of ignition, outer circles indicate the materials first ignited.



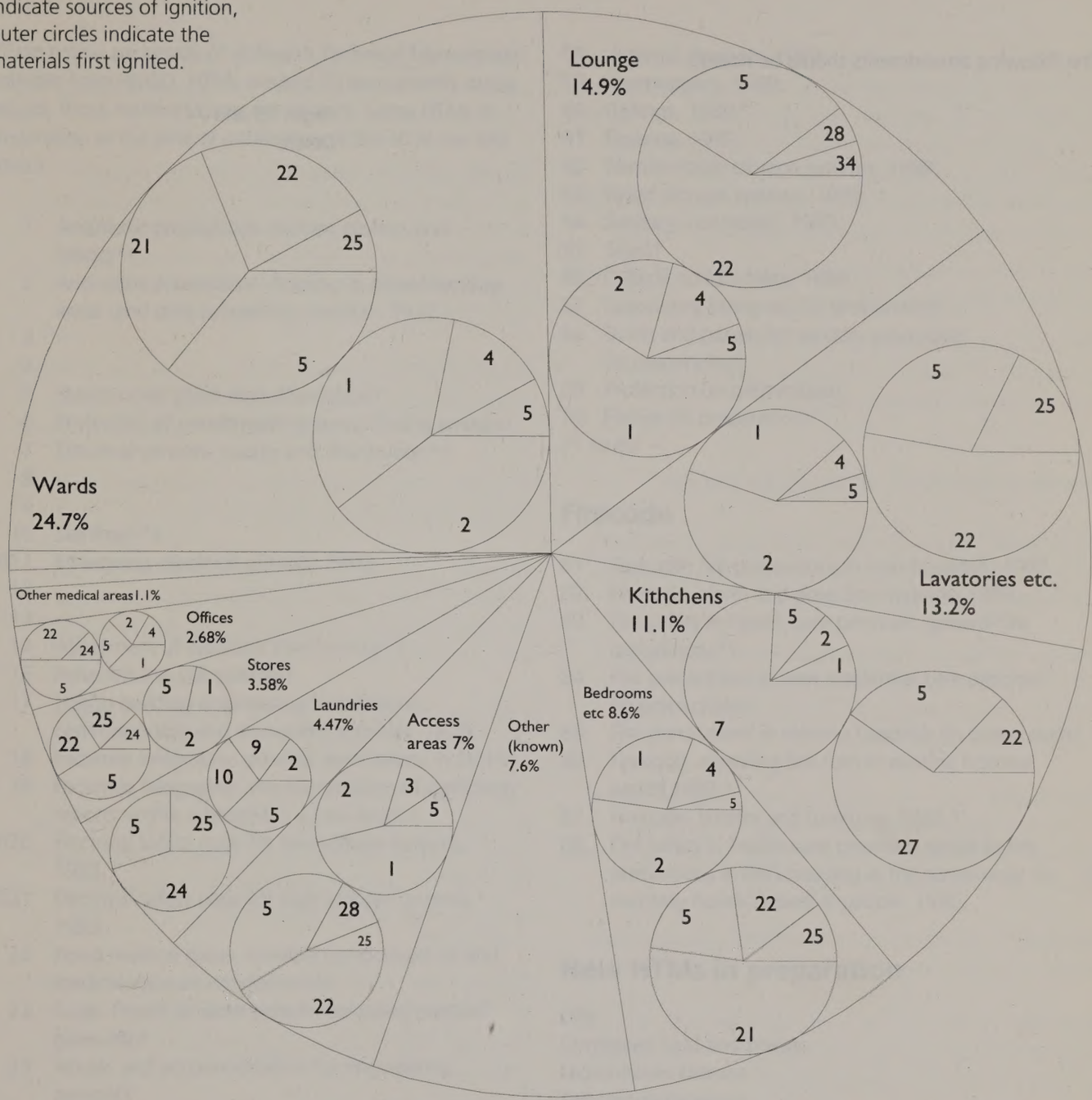
Key

1	Smokers material	13	Central heating	25	Other textiles
2	Deliberate fires	14	Water heating	26	Decorations, toys
3	Lighting	15	Welding, cutting etc.	27	Food
4	Matches	16	Supply apparatus	28	Waste (unspecified)
5	Other (known)	17	Wire and cable (fixed)	29	Clothing on person
6	Unknown	18	Wire and cable (leads to)	30	Structure
7	Cooking appliances	19	Other naked lights	31	Lagging
8	Dishwashers	20	Cleaning materials	32	Fittings
9	Tumble dryers	21	Bedding (on beds)	33	Other furnishings
10	Washing machines	22	Waste (specified)	34	Upholstery
11	Specialised equipment	23	Vegetation	35	Raw materials
12	Space heating	24	Electrical insulation		

Home Office fire statistics 1989 – total fires 1517

Psychiatric hospitals

Note:
Inner circles of diagram indicate sources of ignition, outer circles indicate the materials first ignited.



Key

1	Smokers material	13	Central heating	25	Other textiles
2	Deliberate fires	14	Water heating	26	Decorations, toys
3	Lighting	15	Welding, cutting etc.	27	Food
4	Matches	16	Supply apparatus	28	Waste (unspecified)
5	Other (known)	17	Wire and cable (fixed)	29	Clothing on person
6	Unknown	18	Wire and cable (leads to)	30	Structure
7	Cooking appliances	19	Other naked lights	31	Lagging
8	Dishwashers	20	Cleaning materials	32	Fittings
9	Tumble dryers	21	Bedding (on beds)	33	Other furnishings
10	Washing machines	22	Waste (specified)	34	Upholstery
11	Specialised equipment	23	Vegetation	35	Raw materials
12	Space heating	24	Electrical insulation		

Home Office fire statistics 1989 – total fires 895

Appendix 5

The following amendments should be noted:

Pages 73 and 74
Delete

Other publications in this series

(Given below are details of all Health Technical Memoranda available from HMSO. HTMs marked (*) are currently being revised, those marked (†) are out of print. Some HTMs in preparation at the time of publication of this HTM are also listed.)

1 Anti-static precautions: rubber, plastics and fabrics*†
2 Anti-static precautions: flooring in anaesthetising areas (and data processing rooms)*, 1977.
3 –
4 –
5 Steam boiler plant instrumentation†
6 Protection of condensate systems: filming amines†
7 Electrical services: supply and distribution*†
8 –
9 –
10 Sterilizers*†
2011 Emergency electrical services, 1992.
12 –
13 –
14 Abatement of electrical interference*†
15 Patient/nurse call systems†
17 Health building engineering installations: commissioning and associated activities, 1978.
18 Facsimile telegraphy: possible applications in DGHs†
19 Facsimile telegraphy: the transmission of pathology reports within a hospital – a case study†
2020 Electrical safety code for low voltage systems, 1993.
2021 Electrical safety code for high voltage systems, 1993.
22 Piped medical gases, medical compressed air and medical vacuum installations*†
22 Supp. Permit to work system: for piped medical gases etc†
23 Access and accommodation for engineering services†
24 –
25 –
26 Commissioning of oil, gas and dual fired boilers: with notes on design, operation and maintenance†
27 Cold water supply storage and mains distribution* [Revised version will deal with water storage and distribution], 1978.
28 to 53 –

Component Data Base (HTMs 54 to 70)

54 User manual, 1989.
55 Windows, 1989.
56 Partitions, 1989.
57 Internal glazing, 1989.
58 Internal doorsets, 1989.
59 Ironmongery, 1989.
60 Ceilings, 1989.
61 Flooring, 1989.
62 Demountable storage systems, 1989.
63 Fitted storage systems, 1989.
64 Sanitary assemblies, 1989.
65 Signs†
66 Cubicle curtain track, 1989.
67 Laboratory fitting-out (in preparation)
68 Ducts and panels for sanitary assemblies (in preparation)
69 Protection (in preparation)
70 Fixings (in preparation)
71 to 80 –

Firecode

81 Firecode: fire precautions in new hospitals, 1987.
82 Firecode: alarm and detection systems, 1989.
83 Fire safety in health care premises: general fire precautions*†
84 Fire precautions in new residential care premises (in preparation)
85 Fire precautions in existing hospitals (in preparation)
86 Firecode: assessing fire risks in existing hospital wards,1987.*
87 Firecode: textiles and furniture, 1989.*
88 Fire safety in health care premises: guide to fire precautions in NHS housing in the community for mentally handicapped/ ill people, 1986.

New HTMs in preparation

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Legionnaires Disease
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